

Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of the claims in the application:

1. (Currently Amended) A method comprising:
capturing at least a portion of an image in a field of view to provide a digital image;
digitally compressing the digital image of an image at a first instance of time to provide a compressed file having a file size;
digitally compressing the digital image of an image at a second instance of time to provide a compressed file having a file size;
[and]
comparing the file size of the compressed files and moving a lens to maximize the size of the compressed file to bring the lens into focus;
capturing at least a portion of an image in a field of view to provide a third digital image at a third instance of time;
digitally compressing the third digital image to provide a third compressed file having a file size;
and
comparing the file size of the third compressed file with the previous compressed file to determine which digital image is best focused.
2. (Cancelled)
3. (Previously presented) The method as recited in Claim 1 further comprising:
determining, from the comparing the file size step, the range to an object in the image.
4. (Cancelled)
5. (Currently amended) A lens focusing system comprising:
a lens in a field of view of an image detector;
a mechanism to move the lens;

a compression engine, responsive to the image detector, to provide a plurality of successive compressed data [file]files; and

a digital processor to compare the size of each one of the plurality of successive compressed data [file]files and to provide a control signal to the motor to move the lens to a position that creates the largest compressed data file to focus the lens.

6. (Currently amended) A method of focusing a lens comprising:

(a) capturing a first image and digitally compressing and storing the data;

(b) moving the lens to another position;

(c) capturing a second image and digitally compressing and storing the data; [and]

(d) comparing the size of the data file of the first image with the size of the data file of the second image and moving the lens in the direction of the position providing the larger file size;

(e) capturing a third image and digitally compressing and storing the data; and

(d) comparing the size of the data file of the third image with the size of the data file of the previous image that provided the largest data file and moving the lens in the direction of the position providing the larger file size.

7. (Currently amended) An automatic focusing system for a camera comprising:

a lens;

a driver that drives said lens along an optical axis of said lens;

a detector that receives an optical image through said lens and outputting signals indicative of said received optical image at an instant of time;

a processor that processes said signals to provide a digital signal indicative of the optical image and to compress said digital signal to provide a compressed digital signal to provide a size signal indicative of the size of the compressed digital signal and a plurality of successively compressed digital signals; and

a controller that controls said driver to locate said lens at a position where said size signal becomes greatest from the plurality of successively compressed digital signals.

8. (Original) The automatic focusing system as recited in claim 7 wherein the size signal is a digital word indicative of the size of the compressed digital image.

9. (Original) The automatic focusing system as recited in claim 7 wherein the compressed digital image is a JPEG compressed image.
10. (Original) The automatic focusing system as recited in claim 7 wherein said detector comprises a charge coupled device having a plurality of light receiving pixels and color filters provided in front of said light receiving pixels, each of said color filters transmitting one of said plurality of color components.
11. (Original) The automatic focusing system as recited in claim 7 wherein said controller that controls said driver to locate said lens where said size signal becomes greatest by moving said lens along the optical axis to a plurality of lens positions and comparing between values of said size signal measured at said lens positions.
12. (Original) The automatic focusing system as recited in claim 7 wherein said controller initially moves said lens in a predetermined direction by a predetermined amount.
13. (Original) The automatic focusing system as recited in claim 12 wherein said driver moves said lens in a same direction by a calculated amount.
14. (Original) The automatic focusing system as recited in claim 7 wherein a numerical function maximizing technique is used to determine the greatest size signal.
15. (Currently amended) A method of locating a lens in a unit under test comprising:
 - placing a test target a fixed distance from the unit under test;
 - moving the lens to one of a plurality of positions and capturing through the lens and digitally compressing a digital image of the test target to provide a compressed image file having a file size;
 - moving the lens to another one of a plurality of positions and capturing through the lens and digitally compressing a digital image of the test target to provide a compressed image file having a file size until the file size is maximized;

moving the lens to still another one of a plurality of positions and capturing through the lens and digitally compressing a digital image of the test target to provide a compressed image file having a file size until the file size is maximized; and

fixing the lens within the unit under test at the position that provides the maximum file size to focus the lens.

16. (Currently amended) A method of locating a sensor relative to a lens in a unit under test comprising:

replicating a test target over regions of an object plane as it passes through the lens;

capturing an image of the test target with the sensor and segmenting the image into regions corresponding to the regions of the object plane and compressing a digital image corresponding to each region and recording the relative size of the compressed image for each region;

capturing additional images of the test target with the sensor and segmenting the additional images into regions corresponding to the regions of the object plane and successively compressing the digital image corresponding to each region and recording the relative size of the compressed image for each region; and

adjusting the location of the sensor relative to the lens to set axial and tilt adjustments such that the relative size of the compressed image for each region is maximized.

17. (Currently amended) A method comprising:

(a) capturing a portion of a first image passing through a lens and digitally compressing and recording the size of the resulting data file;

(b) moving the lens to another position;

(c) capturing a portion of a second image passing through the lens and digitally compressing and recording the size of the resulting data file; [and]

(d) comparing the size of the data file of the first image with the size of the data file of the second image to determine which lens position provides a larger file size;

(e) moving the lens to still another position;

(f) capturing a portion of a third image passing through the lens and digitally compressing and recording the size of the resulting data file; and

(g) comparing the size of the data file of the third image with the size of the data file of the previous image having the largest data file size to determine which lens position provides a larger file size to focus the lens.

18. (Original) The method as recited in claim 17 wherein the digitally compressing step utilizes JPEG compression.

19. (Currently amended) A range finder comprising:
a lens having a plurality of predetermined positions with corresponding ranges;
a driver that drives said lens along an optical axis of said lens;
a detector that receives an optical image through said lens and outputting signals indicative of said received optical image at an instant of time;
a processor that successively processes said signals to provide a plurality of digital [signal]signals indicative of the optical image and to compress said digital [signal]signals to provide a plurality of compressed digital [signal]signals to provide a size signal indicative of the size of each one of the plurality of [the] compressed digital [signal]signals; and
a controller that controls said driver to locate said lens at a position in focus where said size signal becomes greatest, said position corresponding to a specific range.